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Poultry DEMONSTRATIONS

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Poultry Demonstrations

Compiled by R. C. OGLE

TO DEMONSTRATE a method or way to do something helps you to organize your material and your thoughts logically and to express yourself intelligently and interestingly—accomplishments that will award you returns in many ways in later life.

A successful demonstration requires skill and practice, and there is no better place to start than at a club meeting. In fact, demonstrations should be a part of local club programs.

Start with a simple subject and one with which you are familiar. Then progress to more complex demonstrations. As your skill and originality develop through practice, you will soon want to participate in county or state demonstrations. Soon, too, you will be surprised at how much you have learned through reading and preparation for the demonstrations. You may find new interests and new incentives. Remember that the best way to learn is by doing.

How to choose your demonstration, how to make the outline, how to give the demonstration, and how to judge your demonstration all are discussed in 4-H Club Bulletin 86, *How to Demonstrate*. Ask your 4-H Club Agent for a copy and study it carefully. Also ask your agent to see the slide set, *Pointers for Demonstrators*.

Some topics and outlines for poultry demonstrations follow:

Some Outlines

Handle and Examine a Live Bird

Purpose

Culling, selection of layers and breeders, disease prevention, marketing, and exhibiting require a poultryman to handle and examine individual birds frequently. He should be able to do this without hurting or unduly scaring the bird or the flock, and without soiling his clothing.

Materials

- 1 or more birds
- 1 catching crate or coop with a top exit
- 1 coop with a side exit
- Table



Outline

1. Lift a bird from a coop with a top exit
2. Remove a bird head first from a coop with a side or front exit
3. Hold a bird for examination
 - A. Head observation
 - a. Position of left hand
 - b. Position of bird
 - c. Position of right hand
 - B. Examination of body parts
 - a. Position of left hand
 - b. Position of bird
4. Examine a bird
 - A. Head
 - B. Vent
 - C. Feathers
 - a. Body
 - b. Primaries
 - c. Secondaries
 - D. Abdomen
 - E. Body type

Directions

To remove a bird from a coop with a top exit, place your right hand over one wing, grasp the wing firmly near the bird's body and lift the bird from the floor. Slip your left hand, palm up, under the bird's breast, and grasp the bird's legs.

To remove a bird from a coop with a side exit, reach over the back of the bird and grasp a wing close to the bird's body, place your other hand under the bird's breast and grasp the bird's legs between your fingers, lift the bird from the floor through the opening.

To hold a bird for head observation, with the bird's head toward you and the legs straight out behind, place the legs in your left hand so

the hock joint rests at the edge of the hand near the forefingers. Grasp the legs with the thumb and fingers. One finger may be kept between the thighs to prevent squeezing the abdomen. Support the bird by placing the fingers of the right hand under its breast. The bird may now be turned in any direction without releasing the left hand; the right hand is used to help turn and hold the bird's body for observation.

Examine the right side of the bird's head. Move the bird's head and shoulders to your left and examine the left side of the head. Tip the bird, head down, back against your body, part the feathers around the vent with thumb and middle finger and examine the vent.

With the keel bone resting upon the palm of your left hand and on your forearm, part the back and body feathers with the fingers of the right hand, and examine the feathers. Place the right hand over the abdomen to detect condition and skin quality.

Place the thumb of your right hand above and the fingers below the wing, spread the fingers and the wing quills, and note the primary feathers, the secondary feathers, and the axial feather. Elevate the bird's legs, tip the wing toward you, and examine the small secondary feathers near the body.

Move the right hand in front of the bird and to the other wing, and repeat.

To examine the bird for body type, rest the breast of the bird on your knee, and demonstrate heart girth, depth of body, front and rear, back width, and keel length.

Make a Catching Hook

Material

Pine stick, 3' x 1¼", or broom, fork, or rake handle

Vise

Drawshave, or plane, or sharp, heavy knife

No. 9 wire, 3½'

1 pair pliers

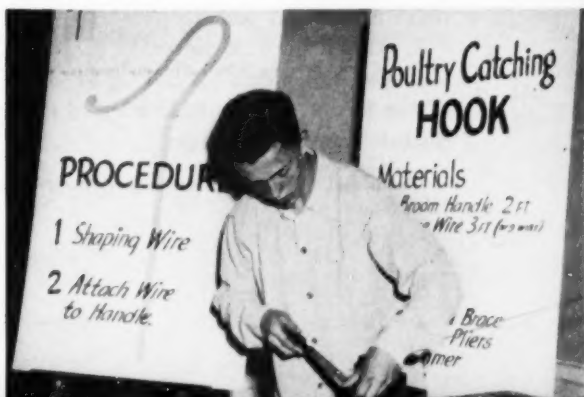
Staples

Hammer

Fine wire, 2'

Outline

1. Round handle
2. Shape wire
3. Assemble



Directions

Round the wood handle.

Place the No. 9 wire in a vise. Bend the wire at one end to make a circle $\frac{1}{2}$ inch or less in diameter. Bend $4\frac{1}{2}$ inches of this same end back to within $\frac{1}{2}$ inch of the main wire. Fit this end to the usual shape of a catching hook. Plane for about 12 inches each side of one end of a wooden handle to make a flat surface to which the wire frame is attached. Bend $\frac{1}{2}$ inch of the opposite end of the wire at right angles and staple 1 foot of this end of the wire to the wood handle.

Build an Intermediate Feeder¹**Purpose**

Clean feed is as important for large birds as it is for baby chicks. Consequently, all hoppers need to be of a type that gives easy access to the feed but prohibits the birds from walking or scratching in the hoppers.

For chicks from three to ten weeks old, the intermediate hopper has more feeding space and holds more feed than does the chick feeder.

The chick stand fits over the feeder and not only allows the chicks to eat from the feeder but keeps them from scratching litter into the feeder.

Materials

- 6 feet — 1" x 4" lumber for sides
- 5 feet — 1" x 6" for bottom and end
- 6 feet — $\frac{1}{4}$ " x 1" for feed guard
- 3 feet — 2" x 2" for reel
- 2 — 2 $\frac{1}{2}$ ", No. 10, roundhead wood screws
- $\frac{1}{2}$ pound — 6-penny box nails
- $\frac{1}{4}$ pound — 2-penny fine nails

Directions

1. Lay out two end pieces on the 1" x 6" board.
2. Make three $\frac{1}{4}$ -inch holes on the center line of each end piece. Cut the bottom piece 34 inches long from the 1" x 6" board.
3. Assemble the bottom and end pieces.
4. Cut the side pieces 36 inches long from the 1" x 4" lumber and nail them to the end pieces.
5. Attach the side pieces.
6. Cut two pieces $\frac{1}{4}$ " x 1" x 34" long. Nail each to the top of the edges of the feeder. The outside edge of this feed guard must be even with the outside edge of the feeder.

¹From 4-H Mechanics Leaflet 3, *Cornell 4-H Intermediate Poultry Feeder*, by C. M. Edwards.

7. Cut a 2" x 2" reel 33½" long.

8. Fasten the reel in place with 2½", No. 10, roundhead wood screws through the lowest hole in each end piece and turn the screw into the reel so that the screw is firmly fixed, but allow ¼-inch clearance between the reel and end board so the reel may turn freely.



The Stand

Materials

- 3 feet — 1" x 3" board for ends
- 7 feet — 1" x 2" for perches
- 1 foot — 1" x 1" for blocks
- 6-penny nails

Directions

1. Cut two pieces, each 38 inches long, from the 1" x 2" board.
2. Cut two pieces, each 13 inches long, from the 1" x 3" board. These are the ends of the chick stand.
3. From the waste material of the 1" x 3" board, cut *four* pieces 1" x 1" x 3" long. These are the blocks to hold the feeder in place.
4. Use 6-penny nails and fasten the perches (1" x 2" x 38" pieces) to the end pieces. The ends of the perches should be even with the outer edge of the end pieces.
5. Fasten a 1" x 1" x 3" block to each end piece.

Build Shell and Grit Hoppers

Purpose

Oyster shells or other calcium carriers and grit should always be available to laying hens. Homemade equipment saves cash and overhead costs. Probably you have enough construction material on hand, especially if the flock is small, and you can make the equipment in any spare moments.

For 100 hens, 4 feet of feeding space is needed for shell, and from 6 inches to 1 foot for grit.

Materials

- 2 — 2" x 4" pieces
- 2 or 3 boards for back wall
- 1 bottom board

1 outside board
4 cleats
6-penny nails
Hammer
Crosscut saw, square, pencil
Table
Shells

Outline

1. Shell hopper
 - A. Make back wall
 - B. Make hopper
2. Grit hopper
 - A. Make in the same way of same kind of materials as for shell hopper

Directions

1. Cut the 2-by-4-inch pieces 2 feet long and make a model of a wall, from 2 to 5 feet long with a back of $\frac{7}{8}$ -inch boards nailed against the 2-inch edge of the 2-by-4-inch uprights. Cut 2 cleats and nail inside the 2-by-4-inch studs 1 foot above the floor and parallel to the floor. Cut a bottom board for the hopper the width of the studs and long enough to fit between the studs and to rest on the cleats. Cut a board 5 or 6 inches wide to fit against the 2-by-4-inch studs and against the edge of the bottom board. Fasten this board with 2 nails in each end and several at the lower edge.

2. The grit hopper is made exactly as is the shell hopper.

Make a Wire-Top Stand for the Water Dishes

Purpose

Chicks and hens throw considerable water on the floor while drinking. A wire-top stand on which to place the drinking dishes helps to keep the litter dry, limits the spread of disease, and reduces the number of dirty eggs. The water is caught on the floor or on a catch shelf a few inches below the water dish. A strip is tacked around the edge of the shelf to prevent leaks. The shelf is cleaned once or twice weekly.

For hens, it is preferable to have the water level in the drinking dishes only 3 or 4 inches above the surface on which the birds stand. For chicks, the water dishes are placed on the stand after the first week in the brooder.

Materials**For chickens**

- 1 water dish
- Several 3- to 4-inch boards
- Several narrow strips, 1" x 2"
- Nails
- Saw
- Square
- Tin shears
- Hammer
- Small staples
- Pencil

For hens

- Same as for chickens plus
- 2" x 2"s or 2" x 4"s for legs of stand
- 1" x 2" or 1" x 4" for supporting water dish
- Boards for sliding shelf
- Wire, 1" x 2" welded or 1" 14-gauge

Outline**For chickens**

- A. Cut boards for frame
- B. Determine height
- C. Cut strips of 1" x 2" to support water dish
- D. Wire top

For hens

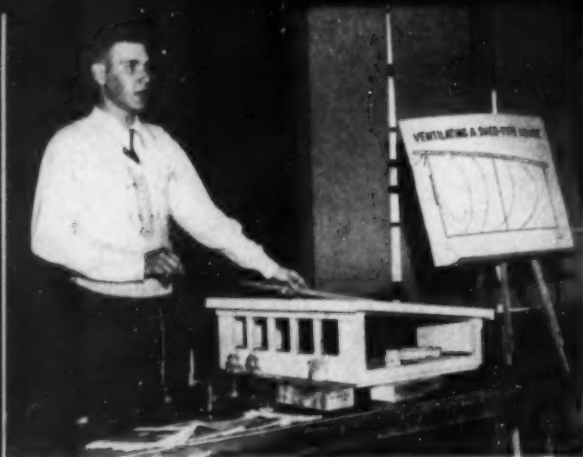
- A. Cut boards for frame
- B. Determine height
- C. Wire top
- D. Prepare sliding shelf or floor

Directions

For chicks, make the frame 12 inches wider than the drinking-dish diameter, and from 3 to 4 inches above the floor. Nail two 1-by-2-inch strips across to support the dishes and the wire. Use 1/2-inch hardware cloth for chicks in the brooder and in 2 to 3 weeks change the top and use 3/4- to 1-inch wire. Place the water dishes directly on the wire.

For hens, make the frame at least 36 inches wider than the drinking-dish width and from 1 to 2 1/2 feet above the floor. Use 1-by-2-inch welded wire or 1-inch wire of No. 14 gauge for the platform. Support the water dish and the wire with the 1-by-2 or 1-by-4-inch material, placed edgewise.

The boards to catch water may be laid at the floor level, if desired, for easier cleaning. The birds should be kept from them.



Ventilate Laying Houses

Purpose

Birds, like people, need fresh, pure air to breathe if they are to be healthy. The air exhaled by the birds contains more water vapor and less oxygen than the air that is inhaled. Hence, air within the poultry house, unless changed frequently, loses much of its oxygen and becomes heavily laden with moisture. The water receptacles and the poultry droppings are other sources of moisture within the laying house. Also, ammonia is given off in the droppings of the birds. Air, high in moisture and ammonia and low in oxygen, is unpleasant to breathe and is unhealthy. Proper ventilation in the laying house provides fresh air without drafts and removes some of this foul air. While damp litter alone may not affect the health or production of pullets, it does increase egg cleaning.

Materials

1 table

Charts

Sections of outlets

Sections of flue wall

Sections of intakes

2 separate hollow tubes, open top and bottom, each surrounded with a water-tight jacket 1 or 2 inches wider than the tube and closed tightly at the bottom and attached to the tube. Two small holes in the top of each tube

2 glass crystallizing dishes, flat-bottom, straight sides, 80 by 40 mm, 60 by 35 mm

Ice water

Hot water

Vial of hydrochloric acid (HCl)
Vial of ammonium hydroxide (NH_4OH)
Several feet of hay-baling wire
Wooden block with handle to hold glass dishes
Wire hook and handle

Outline

1. Air movement
2. Rafter outlet and set-out curtain intake
3. Flue outlet and window and built in intake
 - A. Warm air rises; cold air settles

Directions

Air movement in a poultry house is caused by the difference in temperature within the house and without. The cool in-coming air settles to the floor. The air within as it is warmed becomes lighter and holds more moisture than when cold. This warm air is pushed up by the colder air beneath. As the warm air strikes a cool roof or ceiling or side wall, it cools and deposits some of its moisture. Therefore, for proper ventilation, warm moist air must escape quickly in an uninsulated walled house, but may escape less quickly in an insulated walled house.

From the standpoint of ventilation, poultry houses in New York are classified as cold or warm houses. Three systems of ventilation are used: the rafter out-take, the ceiling flue out-take, and the floor flue out-take.

Demonstrate the movement of warm and cold air by the use of hydrochloric acid and ammonium hydroxide.

Suspend each tube by a wire through the small holes. Place ice water in the jacket surrounding one tube and warm water in the other. Place the large crystallizing dish in the wooden block. Place a small amount of ammonium hydroxide (NH_4OH) in the large crystallizing dish, some hydrochloric acid (HCl) in the small dish, and set the small dish inside the larger one. Hook the rod to the handle on the block and hold it first at the bottom of each tube and then at the top. The white gas which comes from the dishes will follow the air currents. The movement will be down in the cold tube and up in the warm tube.

Explain the construction of the rafter outlet and the purpose of the 1-inch opening. Explain the construction and purpose of the set-out curtain intake, of the window intake, and of the built-in intake.

Explain the construction of the flue wall.

Show by charts how air moves in the poultry house.



Cull a Poultry Flock

Purpose

To maintain high production per bird, to conserve feed, to keep a flock healthy, and to increase profits, a poultryman must cull his flock. Culling should not be confused with selecting; *culling* refers to separating layers from non-layers; *selecting* refers to picking individual birds for breeding or other purposes.

Material

- 2 birds; 1 layer, 1 non-layer
- Charts
- 1 table or bench
- 1 wire coop
- 1 pointer

Outline

1. When to cull
2. Comb
3. Pigmentation
 - A. Color of beak
 - B. Color of shanks
4. Molt
 - A. Neck
 - B. Body
 - C. Wing
5. Handling quality
 - A. Abdomen
 - B. Vent

Directions

Culling, to a limited extent, should be a continuous process because diseased, crippled, or otherwise defective birds should be removed from the flock as soon as they are detected. If only one culling of non-layers

is to be made, it should come late in September or in early October. If two cullings can be made, the first one should come in July or early August and the second one during October. Monthly or even weekly cullings should be made if they do not involve too much time and labor.

One of three methods of removing birds for examination is usually followed: (1) During the day remove the birds with a hook or net; (2) at night, with a flash light, remove from the perches those birds that show a change in a comb or molt condition, place them in crates, and handle them again in the morning; (3) during the day catch all the birds by rounding them up with wire fencing or frames.

In the well-cared-for flock, non-producers and sick birds are culled. In the obviously mismanaged flock, one may place the flock under favorable conditions in the summer and cull them later. In the late fall or summer, one should dispose of the non-layers as they cease to lay.

Hold the bird for examination. Examine the comb, point out the difference in the layer and the non-layer. Examine the color of the beak and the shanks. Discuss the molt on neck, body, and wing. Examine the abdomen for freedom from hard fat. Examine the vent for size and condition.

Produce Clean Eggs

Purpose

High quality builds a desirable reputation for eggs. Market men prefer to store eggs that are guaranteed unwashed, and there is no commercially practical way to detect the cleaned eggs before they go into storage.

When an egg comes in contact with wet manure or other moist dirt, damaging bacteria or mold spores may pass through the shell pores to the inside of the egg. Washing removes the dirt from the surface, but not the bacteria from inside the shell. Furthermore, washing may smear more bacteria over and through the shell into the egg. Dirty eggs should be cleaned, of course, if they are to be shipped. This procedure is discussed in Cornell Extension Bulletin 416, *Handling Eggs for Market*.

Materials

Section of nest

Sketches or sections of nesting room

Nesting materials: long straw, shavings, wheat and oat chaff

Water

Dirt

Twig

Section of rafter ventilation and flue ventilation

Wire-top stand for water dishes

Charts



Outline

1. Nests
 - A. Construction
 - B. Number
2. Nesting materials
3. The house
 - A. Ventilation
 - B. Sources of moisture
 - C. Over-crowding
4. Summary: Rules to prevent eggs from becoming dirty

Directions

Show the section of a nest, explaining the construction details and the provision for darkening and for shutting birds out of nests.

Sources of moisture in a laying house are the waterers, breath and droppings of poultry, storms, and sometimes soil. Each waterer should be placed on a wire-top stand about 1 to 2½ feet above the floor.

Ample space is essential, for overcrowding may result in wet, dirty floor conditions.

The following rules will help to prevent dirty eggs.

1. Construct the nest from 6 to 7 inches deep inside and allow another 7 inches from the top of the front board to the top of the nest.
2. Provide from 4 to 5 inches of fine, clean, fluffy, and absorbent nesting material, such as, shavings.
3. Keep the nest material clean and remove any that is dirtied by broken eggs or manure.
4. Do not let the birds roost on the nests at night.
5. Allow 1 foot of nesting space for each 5 or 6 hens, to prevent undue crowding and egg breakage.
6. Keep the litter clean and dry. See that the house is well ventilated. It may be necessary to stir the litter occasionally with a fork. Fine, pulverized material on the floor often stays drier and gives better results than does coarse, unbroken straw or hay.
7. Do not let storms drive into the house.
8. Prevent overcrowding. Three square feet of floor space for each Leghorn, and four square feet for each bird of the heavier varieties, helps to keep the litter clean.
9. Clean and prevent wet places near the water dishes.

Grade, Prepare, and Pack Eggs for Shipment



Purpose

Correct packing improves the appearance of the product and creates a demand among buyers for a certain producer's eggs or a certain lot number. Grading often determines the price received. Also, a buyer usually pays more for a case of eggs that has the sizes packed separately and labeled than for one packed haphazardly.

Materials

- 1 good egg case, 1 poor egg case
- Covers
- Flats
- Fillers
- Egg cartons: for retail or for shipment in case lots
- Several dozen eggs
- 1 or 2 types of egg scales
- Containers for dirty eggs
- Hand cleaner
- Lye
- Egg-case hatchet
- Labels
- Nails
- Tacks
- Tags
- Cleaning cloth or paper
- Charts

Outline

1. Cases, flats, and fillers
2. Sorting eggs
 - A. Judgment
 - B. Scales
3. Cleaning
 - A. Hand
 - B. Washing

4. Packing bench
5. Packing
 - A. To prevent breakage
 - B. To present favorable appearance
6. Labeling
7. Nail and tag case

Directions

Follow the directions given in Cornell Extension Bulletin 416, *Handling Eggs for Market*.

New York State Retail Egg-Grading Law

Purpose

Both the producer and the consumer should know the legal grades of eggs. New York State protects the consumer in the quality of eggs one may buy, for eggs must be graded and the containers in which eggs are displayed and sold labeled according to grade. Advertisements and eggs on display must show the size of the eggs. It is unlawful to offer for sale inedible eggs. Persons selling, at retail, eggs other than those from his own flock, as well as all retailers of eggs, are responsible to the consumer and the State.

Materials

Candler

Eggs of all grades

Eggs of the different sizes

Egg scales

1 table

Properly labeled containers, cartons, and paper bags

Saucers

Charts

Outline

1. Determine grade
 - A. Candling
 - B. Chart
2. Appearance of broken out eggs of the six grades
3. Sizes
 - Jumbo
 - Extra large
 - Large

Medium

Pullets

Peewees

4. Labels and signs

5. Examples of correct and incorrect advertising

Directions

Show how the eggs are held before the candle. Explain how the light rays are spread through the albumen by scattering, reflection and refraction of light. Candling is a study of lights and shadows. When the albumen is weak or thin, the yolk swings around closer to the shell as the egg is twirled, shuts out light, and casts a deeper shadow.

Show samples of eggs of the different grades, explaining the albumen and yolk differences as found.

Kill and Pick Poultry

Purpose

One should know how to kill a bird for immediate dressing for home use or for sale, and how to kill sick birds wherever and whenever found without scattering blood. Dislocating the neck accomplishes this, as the blood collects in the neck.

Material

1 live bird

Killing knife

Pinning knife

Cord

Wooden block $\frac{1}{2}$ " x 2" with hole in center

No. 9 wire

1 pair pliers

Blood cup

Weight

Waste container

Rack

Outline

1. Dislocate the neck

A. Position of hands

B. Position of bird

2. Sticking

A. Apparatus for operation

- a. Cord and block
- b. Wire holder
- c. Blood cup
- d. Weight
- e. Knife

B. Location of blood vessels

C. Position of knife and hands

Directions

1. Dislocating the neck is a popular method of killing sick birds or birds for home consumption but not for market purposes. Hold the bird's legs in your left hand, and near your left hip. With the breast of the bird out, grasp the bird's head, having the thumb at the back near the base of the skull, the palm against the face, and the middle finger across the underside of the beak. Bend the bird's head back at nearly a right angle. Hold the bird's legs firmly, rest the right hand against the outer side of the knee to steady the hand, and pull down sharply with the right hand.

The neck will separate at the base of the skull and sever the blood vessels there. Stretch the neck to provide space for the blood to accumulate. Bleeding is quite complete; all the blood is held in the neck, as the outside skin is unbroken. Hang the bird up or hold it until fluttering stops. Let the bird lie awhile before dressing to allow the blood to coagulate.

2. Sticking a bird in the mouth permits the most complete bleeding.

Hang the bird up. Grasp its head with your left hand, bird's comb in palm and palm up. Hold the head with the fleshy part of the thumb and forefinger against the bones near the earlobes. Do not press against the soft part of the neck, as this stops the flow of blood. With the middle finger of the left hand, open the beak. Insert the knife in the mouth and throat until the point is about $\frac{3}{4}$ inch beyond the left thumb, and slightly to the left of center. Make a quick single cut, down and to the right, pressing against the neck. More than one cut is undesirable and usually unnecessary.

Full-Scald and Slack-Scald Poultry

Purpose

A few markets object to scald-picked poultry on the basis of its keeping quality and appearance. A properly scalded bird, however, is fairly attractive. There are advantages to both the full-scald and slack-scald methods, so the poultryman should choose the one best suited to his purpose.

Materials

- 1 bird recently killed
- 1 large pail or wash boiler
- Hot water
- Water thermometer
- Table
- Heavy paper
- Container for waste

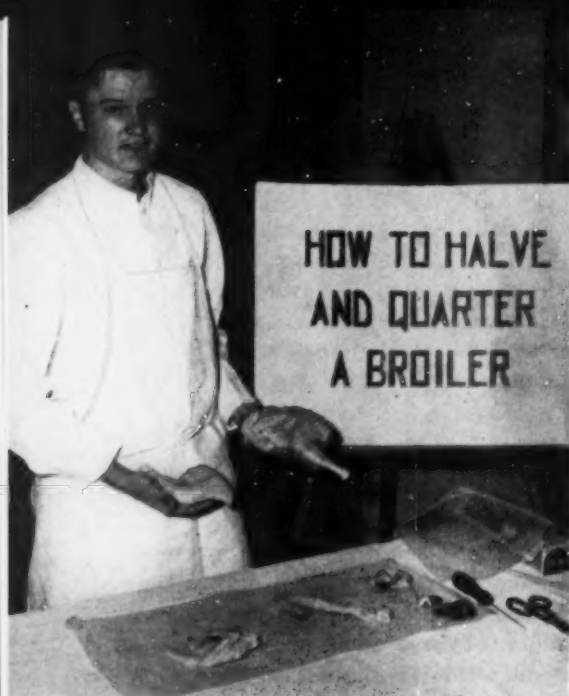
Outline

1. Full-scald
 - A. Advantages and disadvantages
 - B. Temperature of water
 - C. Scalding
 - a. How to hold the bird
 - b. Time
2. Slack-scald
 - A. Advantages and disadvantages
 - B. Temperature of water
 - a. For broilers
 - b. For fowls or roasters
 - C. Scalding
 - a. How to hold the bird
 - b. Time

Directions

Full-scald. The bird may be picked when convenient; the feathers are removed easily and the bird usually has a plump appearance. The hot water tends to melt the fat and draw it to the surface. If yellow pigment is present in the fat and the carcass is dipped into cold water immediately after picking, the yellow color remains.

The scalding water should be about 180° F. Hold the bird by the head and feet, keeping these parts out of the water, and draw the bird, head first, slowly through the water. Try the thigh feathers; if they are still tight, dip the bird again. The feathers are loosened by the water steaming the muscles at their base. Overscalding is more common than under-scalding. Correct scalding reduces skin cooking and gives a minimum of dark surface blotches.



Slack-scald. This method reduces skin injury and the drawn, toughened skin appearance common in full-scalding. The fat and the pigment are distributed as in full-scalding. The bird is immersed and moved about under water with the hand. There is little danger of overscalding. The feathers are removed easily and without tearing the outer layer of skin.

For broilers, the scalding water should be 128°F.; for fowls and roasters, 140°F. Dip the bird and hold it under water with the hand or a stick, but continue to move

it around in the water for about 30 seconds. If the feathers are tight after 30 seconds, immerse the bird again for 5 seconds.

Halve and Quarter a Broiler

Purpose

Broilers, unless cut to be sold in individual pieces, are usually served in halves or quarters, depending upon the size of portions. A broiler must be cut to lie flat while cooking.

Material

- 1 or more broilers, bled and feathers removed
- 1 knife
- Shears
- 1 table, preferably porcelain top
- Paper
- 1 container for waste

Outline

1. Prepare bird
2. Procedure

Directions

Remove the shanks, cut around the vent and let it hang free. Cut the bird in the following manner.

1. Remove the oil sac.
2. With shears or knife, start near the tail, cut through the bones along the side of the backbone to the neck.
3. Repeat on the other side of the backbone, slitting the skin on the neck to the head.
4. Remove the backbone and the neck in one piece, severing the neck at the head.
5. Place the bird on its breast. With knife, locate the base of the V at the breast in front, and cut through the cartilage, pushing the two halves apart.
6. With the knife, work the flesh away from the front end of the breastbone, and by pressing from below snap it out.
7. Halve the broiler.
8. To quarter, cut from the approximate center of the back line to the rear of the breast meat.
9. Clean the giblets.

Draw and Truss a Bird

Purpose

A neat job of drawing or trussing helps to make a bird attractive and appetizing in appearance, easier to prepare for the roasting oven, and should increase the demand for birds so prepared.

Material

- 1 roaster or turkey, bled and feathers removed
- 1 knife, strong and sharp
- 1 table, preferably porcelain top
- Cord, 3'
- 1 6" piece of 1/2" round wood, pointed at one end, or a clothespin
- Cheesecloth
- Heavy paper
- Thumbtacks
- 1 container for waste

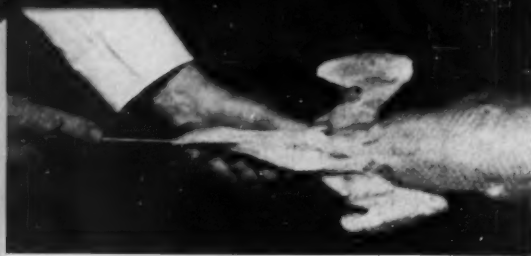
Outline

1. Draw bird
2. Truss bird

Directions

Draw the bird:

With the bird on its breast, head toward you, cut through the skin from a point between the shoulders, along the back of the neck and to the head. Separate the skin from the neck bone. Cut through the flesh at both ends of the neck; twist or cut the neck with shears and remove it.



Cut through the skin, from a point
between the shoulders, along the
back of the neck to the head



Separate the skin from the neck bone



Cut through the flesh at both ends
of the neck



Twist or cut the neck with shears
and remove it



Separate the windpipe, gullet, and crop
from the skin and cut off the head

Cut the skin on the back of the shank



**Insert the forefinger under a tendon
and pull it out**



Separate the windpipe and gullet from the skin. Reach the forefinger into the body through the front opening, loop the finger under and around the gullet between the crop and the gizzard and pull out. The crop should follow.

Cut off the head. Insert the forefinger and loosen the lungs and heart.

With the bird on its breast, feet toward you, cut through the skin on the back of the shank. Insert the forefinger under a tendon and pull it out, or insert the stick or clothespin under a tendon. Place the bird's foot flat against your body. Grasp the stick on both sides of the tendon and pull it out. Repeat for each tendon.

Place the bird on its back, tail toward your right, and cut between the vent and the tail. Insert the forefinger of the left hand, loop it up over the intestine and out the other side. Cut around the vent. If more room is needed, cut toward the right leg from just above the pubic bone.

Cut between the vent and the tail





Insert the forefinger of the left hand,
loop it up over the intestine
and out the other side



Cut around the vent



Remove the intestines, gizzard, lungs,
liver, and heart

Remove the intestines, gizzard, lungs, liver, and heart. To remove kidneys, work them loose from the back with the forefinger.

Set the bird on its rump, back toward you, fold the neck skin down over the breast and scrape the upper surfaces of the wishbone. Insert a strong knife under the bone and work the bone loose at the upper end.



Fold the neck skin down over the breast
and scrape the upper surfaces of
the wishbone

**Work the flesh away from the lower part
of the wishbone**



Repeat on the other side. With the point of the knife and the thumb work the flesh away from the lower part of the wishbone and remove the bone.

Remove the oil sac.

Trim heart, liver, and gizzard.

Wash the inside of the carcass and wipe the exterior with a clean cloth.

Singe, if necessary.

Place heart, liver, gizzard, wishbone, and neck in the body cavity.

Truss the bird

The following description is for the butchers truss.

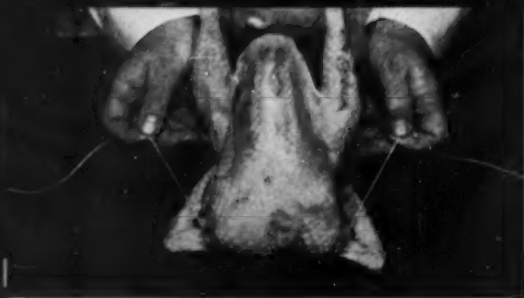
Place the bird on its breast, tail toward you, and fold the neck skin over the back. Bend each wing tip under and up onto the back, to hold the neck skin.

Fold the neck skin over the back

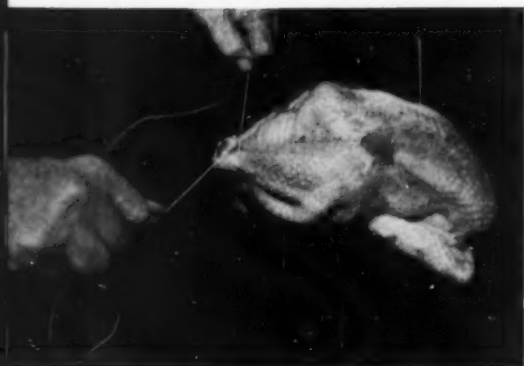


**Bend each wing tip under and up onto
the back to hold the neck skin**

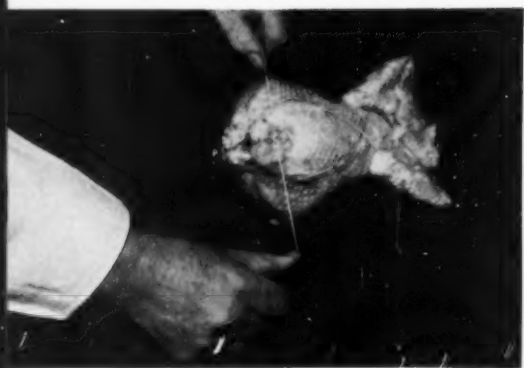




Work a loop of string down over the front and back between the wings and the body



Pull the string firmly, cross it under the back, carry the ends up and cross over the drumsticks near the outer joint; pull the string down tight



Turn the bird over; tie the string across the tail

Place the bird on its back, tail toward you, and work a loop of string down over the front, back between the wings and body, cross the string under the back, pull it firmly, carry the ends up and cross over the drumsticks near the outer joint. Pull the string down tight. Turn the bird over, and tie the string across the tail.

Cut a Fowl for Fricassee



Purpose

To-day, as never before, with the increased demands for meat and poultry, all must be used and served economically, with a minimum of waste. A fowl cut in uniform portions for fricassee is easier to serve.

Material

- 1 fowl, bled and feathers removed
- 1 knife, strong and sharp
- Tin shears, small
- 1 table, preferably porcelain top
- 1 container for waste
- 1 platter

Outline

1. Place the bird on a table
2. Cut in pieces including heart, gizzard, and liver

Directions

Place the pieces in order at top of table as they are cut. Cut as follows.

1. Remove tendons; remove shanks; cut around the vent and let it hang free.
2. Cut the skin between body and thigh, bend back the thigh and the leg, dislocating the thigh joint. Remove, and repeat on the other side.

Bend back the thigh and the leg,
dislocating the thigh joint





Remove the thigh



Lay the knife against the body and cut forward through the wing joint



Cut, with a knife or shears, from the pubic bone to the wing joint



Sever the bone just below the wing joint

Lift the breast and loosen the
attachments from beneath



Separate the front and rear of the back



Cut the large part of the back
into two pieces



Remove the meat from the breastbone



3. With the bird on its side, lay the knife against the body and cut forward through the wing joint. Repeat on the other side.

4. With the bird on its side, cut with knife or shears from the pubic bone straight to the wing joint. Sever the bone just below the wing joint. Repeat on the other side.

5. With the bird on its back lift the breast with your left hand, tear the attachments from beneath with the right hand. Remove the breast.

6. With the bird on its side, start at the rear and separate the intestines, oviduct, crop, and all organs from the back, and the esophagus and wind-pipe from the neck. Cut off the head.

7. Clean liver, heart, and gizzard, and place them at the top of the table.

8. Separate the drumstick and the thigh.

9. Cut the neck bone close to the shoulder.

10. Bend the front part of the back at the joint and remove it.

11. Remove the oil sac.

12. Cut the wishbone free, starting at the front end of the breastbone, but leave considerable white meat attached.

13. Cut through the skin and flesh down both sides of the keel. Hold the breast meat with the back of the knife and tear the bone away.

Control Pullorum Disease

Purpose

Pullorum disease is caused by a germ (*Salmonella Pullorum*), and affects both young and old stock. The disease is transmitted through the egg from the adult fowl to the chick and thence to other chicks through the droppings or through germs in the dust. The presence of the disease in adult birds cannot be determined by any outward symptoms. It is determined by a blood test. There is no known cure for the disease. Control is entirely through disease-free stock and sanitary conditions.

Material

Charts showing reacting and non-reacting blood samples

For slow-tube test

1 bird

1 bottle, glass

3 test-tubes

Test-tube holder

Label

Blood sample

- 1 knife, sharp pointed
- Table
- Antigen
- For whole-blood test
 - 1 bird
 - 1 stylet or hypodermic needle
- Blood loop
- Testing plate
- Antigen
- Coop for reactor
- Coop for non-reactor



Outline

1. Discussion
 - A. Mortality
 - B. Spread of disease
 - C. Life cycle
 - D. Control
 - a. Official testing plan in New York State
 - b. Tests
 1. Tube agglutination
 2. Whole-blood
2. Tests
 - A. Tube agglutination
 - a. Blood sample
 - b. Serum
 - c. Antigen applied
 - d. Readings
 - B. Whole-blood
 - a. Blood sample
 - b. Antigen applied
 - c. Readings

Directions

Discuss the disease; follow the outline. A full discussion is given in Cornell Extension Bulletin 337 A, *Pullorum Disease*.

Show how blood samples are drawn and how antigen is applied, using the rapid whole-blood method.



Control Lice and Mites

Purpose

Lice and mites may be present on both young and old stock. Lice irritate and spend their entire life on the bird. Mites on the other hand are blood-sucking insects that live in cracks and crevices of the roosts and nests during the day and attack the birds at night. They cause a decrease in egg production, and birds may die as a result of their attack.

Lice Control

Materials

- Nicotine sulfate
- Commercial louse powder
- Sodium fluoride
- Flowers of sulfur
- Lindane
- Blue ointment
- Putty knife
- Oil can
- Brush
- Box
- Sifted ashes
- Sand
- Tray

Outline and Directions

Discuss the life history of poultry lice and how they infect poultry, and then treat affected birds with the materials suggested.

1. Nicotine sulfate
 - A. Scrape roosts to remove dirt. Make sure there is no lime on the roosts
 - B. Apply about one-half an hour before the birds go to roost
 - C. Make sure all the birds in the flock go to roost
 - D. Have proper ventilation in the coop when using this treatment. Excessive fumes might lower egg production and cause mortality.
 - E. Repeat the procedure ten days after the first treatment, to kill any newly hatched lice.

2. Commercial louse powder
 - A. Can be used by dusting the bird. Place a tray under the bird to catch any powder dropping off the plumage.
 - B. Can also be used in a dust bath. Use a box with high sides and place in it a mixture of 1 pound of louse powder, 1 bushel of sifted ashes, and dry sand. Keep the mixture dry. Put the box in a place where there is plenty of light to stop the hens from laying eggs in it.
3. Sodium fluoride
 - A. Apply the dust out of doors or in a large empty room because of the poisonous effects of sodium fluoride.
 - B. Place a tray under the bird to catch any dust dropping off the bird's feathers.
 - C. The pinch method is used by putting one pinch on the head, one on the neck, two on the back, one on the breast, one on the tail, one below the vent, one on the under surface of each wing, and one on each thigh.
 - D. *Caution!* This treatment should never be used on setting hens or in breeding flocks because sodium fluoride kills the germ cells of fertile eggs.
4. Flowers of sulfur
 - A. It can be used in a dust bath or by the pinch method.
 - B. Also two applications of sulfur can be put in the litter at the rate of 2 pounds to every 100 square feet of floor space, two weeks apart.
5. Lindane
 - A. Use 0.25 per cent (1 part of 20 per cent lindane emulsion to 199 parts of water) applied as a single spray treatment to all roosting areas.
6. Blue ointment
 - A. Rub a quantity about the size of a pea directly on the flesh below the vent.
 - B. Rub the fingers off under each wing after the application below the vent is completed.

Mite Control

Discuss the life history of mites, and show a section of a perch where mites or eggs are usually found. Explain the control measures and how they are conducted.

Materials

Carbolineum
Coal-tar products

5 per cent D.D.T. in oil

Brush

Tin can

Sprayer

Directions

1. Wood preservatives (that is, carbolineum and coal-tar products)
 - A. Remove chickens from the coop and then clean it thoroughly. Take out all the litter and any detachable equipment. Sweep down walls and ceilings and scrape roosts, nests, walls, and floor.
 - B. Apply the wood preservative on all parts of the roosts, nests, and dropping boards. Brush it into all the cracks and crevices.
 - C. Do not return birds to the coop until several days after the application.
 - D. *Caution!* If you use coal-tar products, do not sell the birds in the coop for eating, because of the taint caused by these disinfectants to the bird's flesh.
2. 5 per cent D.D.T. spray:

A 5 per cent solution of an oil soluble in kerosene can be used as a spray.

Prevention of Lice and Mites

1. Clean nests and dropping boards periodically or when needed.
2. Do not overcrowd the birds in the coop.
3. Provide proper ventilation and plenty of windows for sunlight to get through.
4. Have the windows screened to keep out sparrows and pigeons.
5. Keep all poultry dealers and their crates out of your chicken coops.
6. When you buy replacement stock, always place them in a separate coop and treat them for lice before you put them with your laying flock.

Control Rats on a Poultry Farm

Purpose

The loss to poultrymen by rats totals millions of dollars annually.

Rats persist in surviving because they have adapted themselves to man-made harboring places suitable for breeding and shelter. They cannot exist when either is lacking. To tolerate the rat and pay its present colossal bill is extremely poor business. Rats eat and spoil feed, damage build-



ings and equipment, spread disease, destroy chicks and sometimes hens. Three rats or two laying hens account for approximately the same quantity of feed in one year. Rats breed at three months of age or earlier. The gestation period is 21 days; the same length as the incubation period for chicks. The normal life span of a rat is about three years.

Materials

Keyhole saw

Samples of poison baits

Gassing equipment

Snap trap and wire-cage trap

Corrugated cardboard, 3-inches square

Deadfall

Pictures: destroyed floors; losses of chicks or mature birds known to have been killed by rats; mounds of dirt made by rats; rat-proof poultry house, feed-storage bins; absence of piles of debris and lumber around building

Sections: poultry house, feed bags and other material showing rat holes and destruction; wall showing studs, layer of matched boards, and paper and matched boards or clapboards outside; wall, sill, plate, and rafter of poultry house; double wall

Models: Rat-proof feed bin; rack 6" above floor for bags of feed.

Outline

Methods of control

- A. Shelters, breeding places and food
- B. Cats
- C. Trapping, poisoning, and fumigation
- D. Rat-proofing

Directions

Keep several cats and let them have free access to all poultry quarters except the brooder house.

Trapping, poisoning, and fumigation are effective control measures. Show pictures of a poultry house infested with rats and explain the problem of double-wall as opposed to single-wall construction.

Show methods of using poison bait. Explain the construction details and operation of a deadfall. Show how to make the cardboard snap trap and where it can be used. Explain, with a model, the construction of a rat-proof building; feed bin; rack to hold feed; and where to cut a cat hole in the wall.



Built-up Litter

Purpose

Built-up litter saves labor and lowers litter costs. Furthermore, birds in a dry pen are likely to be healthy, and built-up litter helps to keep the pen dry because it absorbs moisture. It saves labor, too, for you have to clean the floors less often.

Materials

Samples of kind of litter

Two posters

A. Ten good points

Cost

Handling

Durability

Absorptive capacity

Effect of use

Sanitation

Edibility

Effect on manure

Appearance

Insulation

B. Kinds of litter

Peat moss

Shavings

Corn cob

Peanut shells

Straw

Barn floor

Potato hook

Lime

Outline

1. Ten good points (poster)
2. Kinds of litter (poster)
3. How to built-up
4. Care

Directions

Peat moss is the best, but many poultrymen use one of the grain straws. These rate in preference in the following order: oats straw, wheat straw, and rye straw. Straw, properly handled, is sweet and clean with no musty or other disagreeable odor, is bright in color, and shows that it has been well cured or dried. It is free of dust and tough in texture.

Make the foundation for built-up litter in late summer or early fall, in time to accumulate 6 inches of litter over the entire floor of the laying pen before December 1. Add a small quantity of new litter to the pen every week or two, depending upon how the birds have broken up the litter already in the pen, until the required 6 inches of broken up, dry litter is accumulated. Remove no litter as long as it is dry until the end of the laying year. Therefore, you need to clean the laying house only once a year. If there are wet spots, no matter for what reason, only that part of the litter which is wet is removed from the pen. Stir the litter two or three times a month. A potato hook is good for stirring the litter.

Some poultrymen now add to the built-up litter 1 pound of dehydrated lime for each 4 square feet of floor space. Mix the lime thoroughly with the cut-up litter. This helps to maintain a dry litter. Part of the lime can be applied when the new litter is first placed in the laying house in the fall and the rest about January 1 or in mid-winter. Some poultrymen do not use lime until the first evidence of dampness, because too much lime may irritate the bird's nostrils and eyes.

Suggested Demonstration Topics**Breeding**

1. Demonstrate official breeding grades
2. How to select cockerels for breeding
3. How to select females for breeding
4. How to organize a breeding program
5. Making flock mating
6. Making pen mating
7. How to keep breeding records
8. How to produce hatching eggs
9. How to test eggs for fertility
10. The trapnest and its use
11. How to pedigree eggs
12. How to pedigree and hatch chicks
13. Artificial insemination of poultry
14. How to dub cockerels

Young Stock

1. How to locate a good source of baby chicks
2. How to grade baby chicks
3. How to sex baby chicks
4. How to mark chicks for identification
5. How to clean and disinfect the brooder house
6. How to prepare the brooder house
7. What kind of litter and how to use it
8. How to prepare and grow a poultry pasture
9. How to use a poultry pasture
10. How to use a wire porch
11. How to sort the flock for broilers
12. How to caponize a cockerel
13. How to control foxes
14. How to control crows
15. How to control hawks
16. How to control owls

Adult Stock

1. How to identify breeds and varieties of chickens
2. How to handle and examine a live bird
3. How to house a laying flock
4. How to ventilate a laying house
5. How to ventilate a multiple-story house
6. How to mix and balance a laying ration
7. How to use artificial illumination
8. How to debeak a chicken
9. How to cull the non-layer
10. How to cull by pigment condition
11. How to cull by head type
12. How to cull by type and capacity
13. Demonstrate molting and how it may be used
14. How to control rats in the poultry house
15. How to prepare birds for exhibition

Homemade Equipment and Houses

1. How to make a catching hook
2. How to make an egg rack
3. How to make an egg-gathering stick
4. How to make a feed scoop
5. How to make and use an entry disinfectant box
6. How to build a water stand

7. How to build a shell feeder
8. How to build a cabinet for poultry supplies
9. How to build a mash hopper
10. How to build a chick hopper
11. How to make a range hopper
12. How to open a feed bag
13. How to build and use a bag rack
14. How to build and use a scale arm
15. How to build and use a laying nest
16. How to construct a nesting room
17. How to build a community nest
18. How to build feed-storage bins
19. How to build a range shelter
20. How to build a range shade
21. How to build a barrel waterer
22. How to construct a colony house
23. How to make an egg candler
24. How to build an egg-shipping crate
25. How to build and use homemade brooder
26. How to build a dropping pit
27. How to build and use a candling table
28. How to make and use a chick guard
29. How to build a catching crate
30. How to build a shipping crate
31. How to build and use a disposal pit
32. How to build a broody coop
33. How to construct an egg holding room
34. How to build an egg cooler
35. How to construct a brooder house
36. How to construct a laying house

Records

1. The importance of keeping an egg record
2. Chick and adult mortality records
3. Using a chick record form
4. Cost-account records
5. How to take an inventory

Turkeys

1. Demonstrate official grades of breeding turkeys
2. Demonstrate breeds and varieties of turkeys
3. How to select a breeding tom

4. How to select a breeding hen
5. Method of mating turkeys
6. How to build a turkey shelter
7. Official market grades of turkeys
8. Killing and dressing turkeys
9. How to build a killing and dressing room
10. How to build holding and fattening quarters
11. How to build a turkey waterer

Marketing Poultry

1. How to kill, debrain, and dry pick poultry
2. How to full-scald or slack-scald poultry
3. How to wax-pick poultry
4. How to skin a broiler
5. How to halve and quarter a broiler
6. How to draw a fowl
7. How to truss a roaster
8. How to cut a fowl for fricassee

Marketing Eggs

1. The New York State Retail Egg Grades
2. How to produce clean eggs
3. How to grade and pack eggs
4. How to candle and grade eggs
5. How to hold market eggs

Disease and Sanitation

1. Official Pullorum Grades
2. How to diagnose and treat coccidiosis
3. How to vaccinate for bronchitis
4. How to vaccinate for fowl pox
5. How to vaccinate for Newcastle disease
6. How to control poultry lice
7. How to control poultry mites
8. How to blood-test for pullorum disease
9. How to control worms in poultry
10. How to perform a post mortem

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